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Poly:cyclic cyclohex ne cpds. with di:fluoro-phenylen ring - and us as crystal compsn., esp. dielectric for electro-optical display

Assignee: **MERCK PATENT GMBH** Standard company (MERE...)  
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Accession / Update: **1989-279241 / 198939**

IPC Code: **C07C 17/00 ; C07C 25/18 ; C07C 43/19 ; C07C 69/75 ; C07C 121/64 ; C09K 19/30 ; G02F 1/13 ; G09F 9/35 ;**

Derwent Classes: **E14; L03; P81; P85; U11; V07;**

Manual Codes: **E07-H(General) , E10-A11B(Carbonic acid) , E10-A15((Iso)cyanide - general) , E10-F02A2 (ketone on chain of aromatic compound) , E10-G02A(With carbocyclic ring, production) , E10-H01C(Ether with halogen) , E10-H02A(F, bonded to aromatic ring) , L03-D01D1(Liquid crystal compounds) , L03-G05B(Components for liquid crystal display devices) , U11-A03 (Liquid crystal, electrochromic materials) , V07-K(Controlling light)**

Derwent Abstract (DE3906040A) New di-, tri- and tetra-cyclic cyclohexene derivs. contg. 2,3-difluoro-1,4-phenylene ring(s) are of formula (I):

**DERWENT RECORD**

R1-A1-Z1-A2-(Z2-A3)m-R2 (I)  
 R1 and R2 = 1-15C alkyl or 3-15C alkenyl, opt. with one CN or at least one F or Cl substit., in which a CH<sub>2</sub> gp. can be replaced by -O-, -CO-, -O-CO-, -CO-O- or -O-CO-O-; and one of R1 and R2 can also = CN; A1, A2 and A3 = 1,4-cyclohexenylen, trans-1,4-cyclohexylene, in which one or two non-adjacent CH<sub>2</sub> gps. can be replaced by -O-, or 1,4-phenylene, opt. with one or two F substitu., in which one or two CH gps. can be replaced by N, at least one of A1-3 being = 2,3-difluoro-1,4-phenylene and at least one = 1,4-cyclohexenylen; Z1 and Z2 = -CO-O-, -O-CO-, -CH<sub>2</sub>O-, -OCH<sub>2</sub>-, -CH<sub>2</sub>CH<sub>2</sub>- or a single bond.

(I) can be prepd. (not claimed) by standard methods, as described e.g., in Houben-Weyl, Methoden der Organischen Chemie, Georg-Thieme-Verlag, Stuttgart.  
 USE/Advantage - (I) are claimed for use as components of liq. crystal (LC) phases, pref. with at least two LC components, which are claimed for use in LCDs, esp. as dielectric in electro-optical displays. (I) have great negative dielectric anisotropy and low viscosity. They are stable, LC or mesogenic cpds. and form stable LC phases with wide meso-phase range. They considerably extend the palette of LC substances. (I) are colourless and very stable towards chemicals, heat and light and form mesophases in a favourable temp. range.

Abstract info: **DE3906040A**: Dwg.0/0

**Family:**

Patent	Pub. Date	DW Update	Pages	Language	IPC Code
<b>DE3906040A *</b>	Sept. 21, 1989	198939	16	German	C07C 25/18

Local appls.: **DE1989003906040** ApplDate:1989-02-27 (89DE-3906040)

<b>CH0678947A =</b>	Nov. 29, 1991	199151		German	C09K 19/30
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Local appls.:

<b>JP2004723A =</b>	Jan. 09, 1990	199007		English	C07C 17/00
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Local appls.: **JP1989000055268** ApplDate:1989-03-09 (89JP-0055268)

**Priority Number:**



Application Number	Application Date	Original Title
DE1989003906040	Feb. 27, 1989	CYCLOHEXENDERIVATE
DE1988003807820	March 10, 1988	

Chemical Indexing Codes: [Show chemical indexing codes](#)

Ring Index Numbers: [Show ring index numbers](#)

Registry Numbers: 01[M3]:1704X 1724X 1711X 1714X 89290

Title Terms: POLY CYCLIC CYCLOHEXENE COMPOUND DI FLUORO PHENYLENE RING CRYSTAL COMPOSITION  
DIELECTRIC ELECTRO OPTICAL DISPLAY

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